BEST AVAILABLE IMAGES

Defective images within this document are accurate representations of the original documents submitted by the applicant.

Defects in the images may include (but are not limited to):

- BLACK BORDERS
- TEXT CUT OFF AT TOP, BOTTOM OR SIDES
- FADED TEXT
- ILLEGIBLE TEXT
- SKEWED/SLANTED IMAGES
- COLORED PHOTOS
- BLACK OR VERY BLACK AND WHITE DARK PHOTOS
- GRAY SCALE DOCUMENTS

IMAGES ARE BEST AVAILABLE COPY.

As rescanning documents *will not* correct images, please do not report the images to the Image Problem Mailbox.

PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant: Mukerji et al.

Serial No.: 09/624,670

Filed: July 24, 2000

For: ELONGASE GENES AND USES THEREOF

Case No.: 6407.US.P2

Examiner: Ramirez, D.

Group Art Unit: 1652

I hereby certify that this paper (along with any paper referred to as being attached or enclosed) is being sent by facsimile transmission to the number shown below on the date shown below:

_____.
Cheryl L. Becker Date

DECLARATION UNDER 37 C.F.R. § 1.131

Commissioner for Patents
P.O. Box 1450
Alexandria, Virginia 22313-1450

Sir:

We, AMANDA E. LEONARD, PRADIP MUKERJI, JENNIFER M. PARKER-BARNES and JENNIFER THURMOND, citizens and residents of the United States of America, and we, TAPAS DAS and YUNG-SHENG HUANG, citizens of India and Taiwan, respectively, and residents of the United States of America, do declare and say that:

We are co-inventors of the above-referenced application for patent filed on July 24, 2000.

In the Office Action of December 17, 2002, claims 1-5, 8-9, 11-17, 18-22 and 47 are rejected under 35 U.S.C. 102(a) as being anticipated by Tvrdik et al. (J. Cell Biol.

149(3):707-717, May 2000; GenBank accession number AF170908). Additionally, claims 10 and 18 are also rejected under 35 U.S.C. 103(a) as being unpatentable over Tvrdik et al. (J. Cell. Biol. 149(3):707-717, May 2000; GenBank accession number AF170908). Further, claims 23 and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tvrdik et al. (J. Cell Biol. 149(3):707-717, May 2000; GenBank accession number AF170908) in view of Lassner et al. (The Plant Cell 8:281-292, 1996).

We conceived and reduced to practice the invention claimed in claims 1-5, 8-24 and 47 prior to the publication date of the Tvrdik et al. reference, as evidenced by the following:

Attached Exhibit A illustrates that, prior to the May 2000 publication date of Tvrdik et al., we identified the nucleotide sequences of MELO4 and MELO7 as well as the encoded amino acid sequences of the proteins. We contructed two vectors (i.e., pRAE-84-4 and pRAE-87-4) using the cDNA sequence of MELO4 and cDNA sequence of MELO7, respectively, and cloned these two vectors.

Attached Exhibit B illustrates that, prior to the May 2000 publication date of Tvrdik et al., we transformed host cells (i.e., yeast cells) with the respective cloned vectors in order to express MELO4 and MELO7.

Attached Exhibit C illustrates that, prior to the May 2000 publication date of Tvrdik et al., we established the elongase activity of both the MELO4 and MELO7 polypeptide sequences.

In summary, the attached Exhibits establish that the claimed invention was conceived of and reduced to practice, prior to the publication date of Tvrdik et al. (i.e., May 2000).

Although all the dates on Exhibits A-C have been blocked out, such dates are prior to May 2000, with the exception of the witnessing dates which are subsequent to May 2000.

We declare further that all statements made herein of our own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such

willful false statements may jeopardize the validity of the instant application or any patent issuing thereon.

Respectfully submitted,

By: Amanda Eun-Yeung Leonard
Amanda E. Leonard

Date: April 13, 2004

By: Pradip Mukerji
Pradip Mukerji

Date: April 13, 2004

By: Tapas Das
Tapas Das

Date: April 13, 2004

By: Y-S. Huang
Yung-Sheng Huang

Date: Apr 13. 2004

By: Jennifer Thurmond
Jennifer Thurmond

Date: April 13th 2004

By: Jennifer M. Parker-Barnes
Jennifer M. Parker-Barnes

Date: April 14th 2004

PROJECT TITLE Transgenic Lipids

Continued from Notebook 3681.

Contd

ligate mm candidates into pUC242

4) mm4 (NcoI/DraI) + pUC242 (NcoI/HindIII)] 4 ul of vector + 5 ul of gel purified

6) mm6 (HindIII/NcoI) + " " "

7) mm7 (EcoRI/NcoI) + pUC242 (NcoI/EcoRI) "

Transform into Top10 cells (LB + Amp - 20 ug/ml)

2/28/00

Set up PCR to sequence pCAE-50-A2 & A3 (subclone #4)

1) pCAE-50-A2 RO424
2) " RO425
3) " RO764 per RO762
4) " RO766
5) " RO765
6) pCAE-50-A3 RO424
7) " RO425
8) " RO764
9) " RO766
10) " RO765
11) control

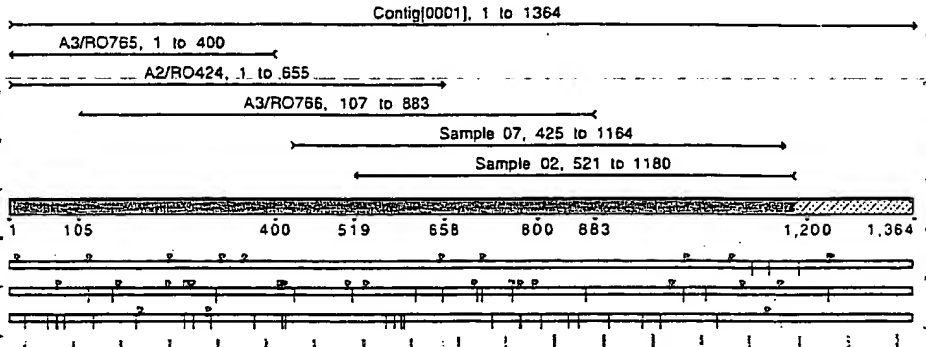
Use portion of the set control good for either #2 or #3

Applied Biosystems

Lane	File Name	Sample Name
1	Sample 01	A2/RO424
2	Sample 02	A2/RO425
3	Sample 03	A2/RO764
4	Sample 04	A2/RO766
5	Sample 05	A2/RO765
6	Sample 06	A3/RO424
7	Sample 07	A3/RO425
8	Sample 08	A3/RO764
9	Sample 09	
10	Sample 10	
11	Sample 11	A3/RO766
12	Sample 12	A3/RO765
13	Sample 13	CONTROL

10
11
12
A2

Contig[0005]
Sequencer™ "Untitled Project"



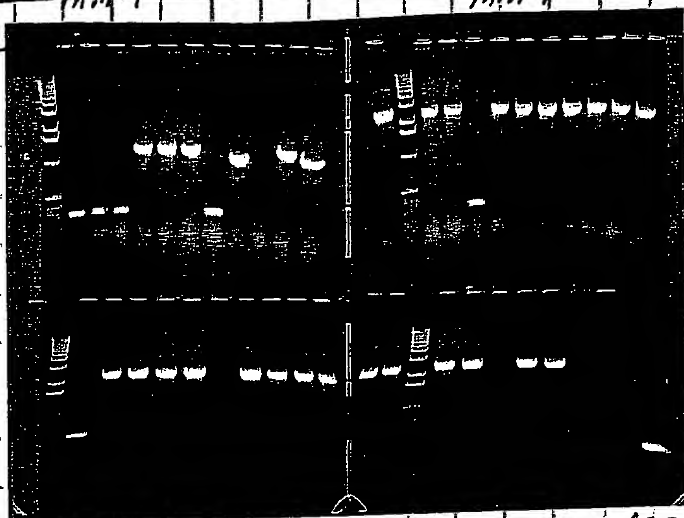
A3

Project No.	Signature	Date
	Amanda E. Leonard	
Witnessed By Paul Johns		Date

PROJECT TITLE Transgenic Lipids

PCR screen for Δ6 from O/N plated colonies] file # 100
Also PCR screen for mm4 & mm7 w/ RO424, 425

mm4 mm7



mm7 mm7

screened 11 colonies for mm4 - pick all six to grow O/N for mp.

screened more for mm7 pick 1st 6 to grow O/N for mp.

screened 11 for Δ6 - w/ RO793, 795 - no clones
also amplified cells from A22 (mix) w/ RO793/5
Δ6 PCR ← cDNA-poly band ~1.5 Kb

~~pRAE-84~~ PCE

pRAE-84 - 4, 5, 6, 8, 10, 11 (pYX242 (NcoI/HindIII) + mm4 RO819/820 (same seq)
pRAE-87 - 3, 4, 5, 6, 8, 9 (pYX242 (NcoI/EcoRV) + mm7 RO833, RO832 also

Start O/N cultures of pRAE-84 & pRAE-87 to mp

Cut mm1-A2 w/ EcoRI, & NcoI
100ul tot. vol → 20ul tot vol (heat treat) → 100ul tot vol
microspin EP — microcon concentrate

fill-in mm5 7, 9a, 9b & 10, 100ul tot. vol — ligate w/ pCR-Blunt
microcon 100 concentrate down

ligate mm1-A2 5ul w/ pYX242 ~~(EcoRI/HindIII)~~ (NcoI/EcoRV) AEL

Transform into Top10 - also mm5 candidates in pCR-Blunt

Project No.	Signature	Date
	Amanda E. Leonard	
Witnessed By: Paul Johns		Date

RO⁻⁻ PRODUCTS DIVISION
AF TT LABORATORIES

PROJECT TITLE Transgenic Oil

MELO4 macv Translated Sequence
4:41 PM

Sequence Range: 1 to 1022

```
      10 NcoI     20         30         40         50
GAA TTC [ACC ATG G]AG CAG CTG AAG GCC TTT GAT AAT GAA GTC AAT GCT TTC TTG
CTT AAG TGG TAC CTC GTC GAC TTC CGG AAA CTA TTA CTT CAG TTA CGA AAG AAC
 E   F   T   M   E   Q   L   K   A   F   D   N   E   V   N   A   F   L>
___a___a___a___a____TRANSLATION OF MELO4 MACV (A)__a___a___a___a___a___>

      60         70         80         90         100
GAC AAC ATG TTT GGA CCA CGA GAT TCT CGA GTT CGC GGG TGG TTC CTG CTG GAC
CTG TTG TAC AAA CCT GGT GCT CTA AGA GCT CAA GCG CCC ACC AAG GAC GAC CTG
 D   N   M   F   G   P   R   D   S   R   V   R   G   W   F   L   L   D>
___a___a___a___a____TRANSLATION OF MELO4 MACV (A)__a___a___a___a___a___>

110        120        130        140        150        160
TCT TAC CTT CCC ACC TTC ATC CTC ACC ATC ACG TAC CTG CTC TCG ATA TGG CTG
AGA ATG GAA GGG TGG AAG TAG GAG TGG TAG TGC ATG GAC GAG AGC TAT ACC GAC
 S   Y   L   P   T   F   I   L   T   I   T   Y   L   L   S   I   W   L>
___a___a___a___a____TRANSLATION OF MELO4 MACV (A)__a___a___a___a___a___>

      170        180        190        200        210
GGT AAC AAG TAC ATG AAG AAC AGG CCT GCT CTG TCT CTC AGG GGC ATC CTC ACC
CCA TTG TTC ATG TAC TTC TTG TCC GGA CGA GAC AGA GAG TCC CCG TAG GAG TGG
 G   N   K   Y   M   K   N   R   P   A   L   S   L   R   G   I   L   T>
___a___a___a___a____TRANSLATION OF MELO4 MACV (A)__a___a___a___a___a___>

 220        230        240        250        260        270
TTG TAT AAC CTC GCA ATC ACA CTT CTT TCT GCG TAT ATG CTG GTG GAG CTC ATC
AAC ATA TTG GAG CGT TAG TGT GAA GAA AGA CGC ATA TAC GAC CAC CTC GAG TAG
 L   Y   N   L   A   I   T   L   L   S   A   Y   M   L   V   E   L   I>
___a___a___a___a____TRANSLATION OF MELO4 MACV (A)__a___a___a___a___a___>

      280        290        300        310        320
CTC TCC AGC TGG GAA GGA GGT TAC AAC TTG CAG TGT CAG AAT CTC GAC AGT GCA
GAG AGG TCG ACC CTT CCT CCA ATG TTG AAC GTC ACA GTC TTA GAG CTG TCA CGT
 L   S   S   W   E   G   G   Y   N   L   Q   C   Q   N   L   D   S   A>
___a___a___a___a____TRANSLATION OF MELO4 MACV (A)__a___a___a___a___a___>

      330        340        350        360        370
GGA GAA GGT GAT GTC CGG GTA GCC AAG GTC TTG TGG TGG TAC TAC TTC TCC AAA
CCT CTT CCA CTA CAG GCC CAT CGG TTC CAG AAC ACC ACC ATG ATG AAG AGG TTT
 G   E   G   D   V   R   V   A   K   V   L   W   W   Y   Y   F   S   K>
___a___a___a___a____TRANSLATION OF MELO4 MACV (A)__a___a___a___a___a___>

380        390        400        410        420        430
CTA GTG GAG TTC CTG GAC ACG ATT TTC TTT GTT CTA CGA AAA AAG ACC AAT CAG
GAT CAC CTC AAG GAC CTG TGC TAA AAG AAA CAA GAT GCT TTT TTC TGG TTA GTC
 L   V   E   F   L   D   T   I   F   F   V   L   R   K   K   T   N   Q>
___a___a___a___a____TRANSLATION OF MELO4 MACV (A)__a___a___a___a___a___>

      440        450        460        470        480
ATC ACC TTC CTT CAT GTC TAT CAC CAC GCG TCC ATG TTC AAC ATC TGG TGG TGT
TAG TGG AAG GAA GTA CAG ATA GTG GTG CGC AGG TAC AAG TTG TAG ACC ACC ACA
 I   T   F   L   H   V   Y   H   H   A   S   M   F   N   I   W   W   C>
___a___a___a___a____TRANSLATION OF MELO4 MACV (A)__a___a___a___a___a___>

 490        500        510        520        530        540
GTT TTG AAC TGG ATA CCT TGT GGT CAA AGC TTC TTT GGA CCC ACC CTG AAC AGC
CAA AAC TTG ACC TAT GGA ACA CCA GTT TCG AAG AAA CCT GGG TGG GAC TTG TCG
 V   L   N   W   I   P   C   G   Q   S   F   F   G   P   T   L   N   S>
___a___a___a___a____TRANSLATION OF MELO4 MACV (A)__a___a___a___a___a___>

      550        560        570        580        590
TTT ATC CAC ATT CTC ATG TAC TCC TAC TAC GGC CTG TCT GTG TTC CCG TCC ATG
AAA TAG GTG TAA GAG TAC ATG AGG ATG ATG CCG GAC AGA CAC AAG GGC AGG TAC
 F   I   H   I   L   M   Y   S   Y   Y   G   L   S   V   F   P   S   M>
___a___a___a___a____TRANSLATION OF MELO4 MACV (A)__a___a___a___a___a___>

      600        610        620        630        640
CAC AAG TAC CTT TGG TGG AAG AAG TAC CTC ACA CAG GCT CAG CTG GTG CAG TTC
GTG TTC ATG GAA ACC ACC TTC TTC ATG GAG TGT GTC CGA GTC GAC CAC GTC AAG
 H   K   Y   L   W   W   K   K   Y   L   T   Q   A   Q   L   V   Q   F>
___a___a___a___a____TRANSLATION OF MELO4 MACV (A)__a___a___a___a___a___>

650        660        670        680        690        700
GTA CTC ACC ATC ACG CAC ACG CTG AGT GCC GTG GTG AAG CCC TGT GGC TTC CCC
CAT GAG TGG TAG TGC GTG TGC GAC TCA CGG CAC CAC TTC GGG ACA CCG AAG GGG
 V   L   T   I   T   H   T   L   S   A   V   V   K   P   C   G   F   P>
```

AEL

MELO4 macv Translated Sequence
4:41 PM


```
___a___a___a___a____TRANSLATION OF MELO4 MACV (A)__a___a___a___a___a___>

      710        720        730        740        750
TTT GGC TGT CTC ATC TTC CAG TCT TCC TAT ATG ATG ACG CTG GTC ATC CTG TTC
AAA CCG ACA GAG TAG AAG GTC AGA AGG ATA TAC TAC TGC GAC CAG TAG GAC AAG
 F   G   C   L   I   F   Q   S   S   Y   M   M   T   L   V   I   L   F>
___a___a___a___a____TRANSLATION OF MELO4 MACV (A)__a___a___a___a___a___>

 760        770        780        790        800        810
TTA AAC TTC TAT ATT CAG ACA TAC CGG AAA AAG CCA GTG AAG AAA GAG CTG CAA
AAT TTG AAG ATA TAA GTC TGT ATG GCC TTT TTC GGT CAC TTC TTT CTC GAC GTT
 L   N   F   Y   I   Q   T   Y   R   K   K   P   V   K   K   E   L   Q>
___a___a___a___a____TRANSLATION OF MELO4 MACV (A)__a___a___a___a___a___>

      820        830        840        850        860
GAG AAA GAA GTG AAG AAT GGT TTC CCC AAA GCC CAC TTA ATT GTG GCT AAT GGC
CTC TTT CTT CAC TTC TTA CCA AAG GGG TTT CGG GTG AAT TAA CAC CGA TTA CCG
 E   K   E   V   K   N   G   F   P   K   A   H   L   I   V   A   N   G>
___a___a___a___a____TRANSLATION OF MELO4 MACV (A)__a___a___a___a___a___>

 870        880        890        900        910
ATG ACG GAC AAG AAG GCT CAA TAA AAT GAA GTG CCG GGG AAC ACA AAC TGA GGT
TAC TGC CTG TTC TTC CGA GTT ATT TTA CTT CAC GGC CCC TTG TGT TTG ACT CCA
 M   T   D   K   K   A   Q   *   N   E   V   P   G   N   T   N   *   G>
___a___a___a___a____TRANSLATION OF MELO4 MACV (A)__a___a___a___a___a___>

920        930        940        950        960 DraI  HindIII of pYX242  970
GGT GGC GGC GGC GGC GGC GGC AGC AAA CA[G ACG AGC TTG TTT T]TA CGC GTC GAC
CCA CCG CCG CCG CCG CCG CCG TCG TTT GTC TGC TCG AAC AAA AAT GCG CAG CTG
 G   G   G   G   G   G   G   S   K   Q   T   S   L   F   L   R   V   D>
___a___a___a___a____TRANSLATION OF MELO4 MACV (A)__a___a___a___a___a___>

      980        990        1000       1010       1020
CCG GGT ATC CGT ATG ATG TGC CTG ACT ACG CAT GAT ATC CTT TTG AGT TT
GGC CCA TAG GCA TAC TAC ACG GAC TGA TGC GTA CTA TAG GAA AAC TCA AA
 P   G   I   R   M   M   C   L   T   T   H   D   I   L   L   S   X>
___a___a___a___a__TRANSLATION OF MELO4 MACV (A)_____a___a___a___a__>
```

mm4 - mouse brain marathon ready cDNA amplified w/ RO819/820.
Cut w/ NcoI/DraI. Should have been cloned into NcoI/EcoRV cut pYX242.
Instead, cloned into NcoI/HindIII cut pYX242.

```
A |AGCTT
TTGCA| A
```

pYX242 should have had AGCTT/A overhang,
but appears "AGCT" was cleaved, leaving a blunt 5' end. Must mean much of pYX242(NcoI/HindIII) HindIII end is blunt since cloning was ~60%!

overall seq looks good.
Need to find human homologue

AEL

Project No.	Signature: Amanda E. Leonard	Date
Witnessed By: Paul Johns		Date

PROJECT TITLE Transgenic Oil

MELO6 macy Translated Sequence

Sequence Range: 1 to 1032

[illegible]

MELO6 macy Translated Sequence

[illegible]

mo16
mouse EST Seq

NcoI

TTA ATT, GCA GAC

HindIII → pYX242 Seq

M1 [illegible]

Ale

MO16 –

mouse brain cDNA RO829/830 amplified

Cut w/ NcoI/HindIII & cloned into pYX242 (NcoI/HindIII)

primer 830 must have created hairpin – no stop where it should be. might be folding differently due to new stop

Need to sequence other pRAG-56 clones to confirm whether any elongase activity present. Check clones 2–11 (minus 5) by sequencing w/ RO 564 & RO425.

Once find new clone, transform into 334.

Also need to confirm HVFHH TITPW? or TIMPW?

might be mutation from cDNA amplification, or error in original EST seq. (Human HS5 seq has TIMPW)...

Project No.	Signature Amanda E. Leonard	Date
Witnessed By Paul Johns		Date

3815 - 24

ROSS PRODUCTS DIVISION
ABBOTT LABORATORIES

PROJECT TITLE *Transgenic Oil*

MELO7 macv Translated Sequence
6:51 AM

Sequence Range: 1 to 1309

```
         10          20          30          40          50
GGA CGC GTG GGC GGA CGC GTG GGC GGA CGC GTG GGC GGA CGC GTG GGC GGA CGC
CCT GCG CAC CCG CCT GCG CAC CCG CCT GCG CAC CCG CCT GCG CAC CCG CCT GCG
 G   R   V   G   G   R   V   G   G   R   V   G   G   R   V   G   G   R>
___a___a___a___a____TRANSLATION OF MELO7 MACV (A)__a___a___a___a___a___>

     60          70          80          90          100
GTG GGC GCC GGG GTT GAA GCT GCC GGG CGC CTT CCT CTT GCA TCG CGG CTG CAG
CAC CCG CGG CCC CAA CTT CGA CGG CCC GCG GAA GGA GAA CGT AGC GCC GAC GTC
 V   G   A   G   V   E   A   A   G   R   L   P   L   A   S   R   L   Q>
___a___a___a___a____TRANSLATION OF MELO7 MACV (A)__a___a___a___a___a___>

110         120         130         140         150         160
CTT GCT TCT GTT CCC GCG CCC GCT TGC ACA TCC TCC TGC TCG CGC GGT CCT GCT
GAA CGA AGA CAA GGG CGC GGG CGA ACG TGT AGG AGG ACG AGC GCG CCA GGA CGA
 L   A   S   V   P   A   P   A   C   T   S   S   C   S   R   G   P   A>
___a___a___a___a____TRANSLATION OF MELO7 MACV (A)__a___a___a___a___a___>

     170         180         190         200         210
GCC GTC CGG TGC TCC CCG TAG CCG CTC AGG CAG AGA UAA TTC ACC ATG GAA CAT
CGG CAG GCC ACG AGG GGC ATC GGC GAG TCC GTC TCT CTT AAG TGG TAC CTT GTA
 A   V   R   C   S   P   *   P   L   R   Q   R   S   F   T   M   E   H>
___a___a___a___a____TRANSLATION OF MELO7 MACV (A)__a___a___a___a___a___>

 220         230         240         250         260         270
TTC GAT GCG TCA CTC AGT ACC TAT TTC AAG GCC TTC CTG GGC CCC CGA GAT ACA
AAG CTA CGC AGT GAG TCA TGG ATA AAG TTC CGG AAG GAC CCG GGG GCT CTA TGT
 F   D   A   S   L   S   T   Y   F   K   A   F   L   G   P   R   D   T>
___a___a___a___a____TRANSLATION OF MELO7 MACV (A)__a___a___a___a___a___>

         280         290         300         310         320
AGA GTC AAA GGA TGG TTC CTC CTG GAC AAT TAC ATC CCT ACG TTT GTC TGT TCT
TCT CAG TTT CCT ACC AAG GAG GAC CTG TTA ATG TAG GGA TGC AAA CAG ACA AGA
 R   V   K   G   W   F   L   L   D   N   Y   I   P   T   F   V   C   S>
___a___a___a___a____TRANSLATION OF MELO7 MACV (A)__a___a___a___a___a___>

     330         340         350         360         370
GTT ATT TAC TTA CTC ATT GTA TGG CTG GGA CCA AAA TAC ATG AAG AAC CGG CAG
CAA TAA ATG AAT GAG TAA CAT ACC GAC CCT GGT TTT ATG TAC TTC TTG GCC GTC
 V   I   Y   L   L   I   V   W   L   G   P   K   Y   M   K   N   R   Q>
___a___a___a___a____TRANSLATION OF MELO7 MACV (A)__a___a___a___a___a___>

380         390         400         410         420         430
CCG TTC TCT TGC CGA GGC ATC CTG CAG TTG TAT AAC CTT GGA CTC ACC CTG CTG
GGC AAG AGA ACG GCT CCG TAG GAC GTC AAC ATA TTG GAA CCT GAG TGG GAC GAC
 P   F   S   C   R   G   I   L   Q   L   Y   N   L   G   L   T   L   L>
___a___a___a___a____TRANSLATION OF MELO7 MACV (A)__a___a___a___a___a___>

     440         450         460         470         480
TCT CTC TAC ATG TTC TAT GAG TTG GTG ACA GGT GTG TGG GAG GGC AAA TAC AAC
AGA GAG ATG TAC AAG ATA CTC AAC CAC TGT CCA CAC ACC CTC CCG TTT ATG TTG
 S   L   Y   M   F   Y   E   L   V   T   G   V   W   E   G   K   Y   N>
___a___a___a___a____TRANSLATION OF MELO7 MACV (A)__a___a___a___a___a___>

  490         500         510         520         530         540
TTT TTC TGC CAG GGA ACA CGC AGC GCG GGA GAA TCC GAT ATG AAG ATC ATC CGC
AAA AAG ACG GTC CCT TGT GCG TCG CGC CCT CTT AGG CTA TAC TTC TAG TAG GCG
 F   F   C   Q   G   T   R   S   A   G   E   S   D   M   K   I   I   R>
___a___a___a___a____TRANSLATION OF MELO7 MACV (A)__a___a___a___a___a___>

         550         560         570         580         590
GTC CTC TGG TGG TAC TAC TTC TCC AAA CTC ATC GAA TTC ATG GAC ACC TTT TTC
CAG GAG ACC ACC ATG ATG AAG AGG TTT GAG TAG CTT AAG TAC CTG TGG AAA AAG
 V   L   W   W   Y   Y   F   S   K   L   I   E   F   M   D   T   F   F>
___a___a___a___a____TRANSLATION OF MELO7 MACV (A)__a___a___a___a___a___>

     600         610         620         630         640
TTC ATC CTT CGC AAG AAC AAC CAC CAG ATC ACC GTG CTC CAT GTC TAC CAC CAC
AAG TAG GAA GCG TTC TTG TTG GTG GTC TAG TGG CAC GAG GTA CAG ATG GTG GTG
 F   I   L   R   K   N   N   H   Q   I   T   V   L   H   V   Y   H   H>
___a___a___a___a____TRANSLATION OF MELO7 MACV (A)__a___a___a___a___a___>

650         660         670         680         690         700
GCT ACC ATG CTC AAC ATC TGG TGG TTT GTG ATG AAC TGG GTT CCC TGC GGC CAT
CGA TGG TAC GAG TTG TAG ACC ACC AAA CAC TAC TTG ACC CAA GGG ACG CCG GTA
 A   T   M   L   N   I   W   W   F   V   M   N   W   V   P   C   G   H>
```

MELO7 macv Translated Sequence
6:51 AM


```
___a___a___a___a____TRANSLATION OF MELO7 MACV (A)__a___a___a___a___a___>

     710         720         730         740         750
TCA TAT TTT GGT GCG ACA CTC AAC AGC TTC ATC CAT GTC CTC ATG TAC TCG TAC
AGT ATA AAA CCA CGC TGT GAG TTG TCG AAG TAG GTA CAG GAG TAC ATG AGC ATG
 S   Y   F   G   A   T   L   N   S   F   I   H   V   L   M   Y   S   Y>
___a___a___a___a____TRANSLATION OF MELO7 MACV (A)__a___a___a___a___a___>

 760         770         780         790         800         810
TAT GGT CTG TCC TCC ATC CCG TCC ATG CGT CCC TAC CTC TGG TGG AAA AAG TAC
ATA CCA GAC AGG AGG TAG GGC AGG TAC GCA GGG ATG GAG ACC ACC TTT TTC ATG
 Y   G   L   S   S   I   P   S   M   R   P   Y   L   W   W   K   K   Y>
___a___a___a___a____TRANSLATION OF MELO7 MACV (A)__a___a___a___a___a___>

         820         830         840         850         860
ATC ACT CAA GGG CAG CTG GTC CAG TTT GTG CTG ACA ATC ATC CAG ACG ACC TGC
TAG TGA GTT CCC GTC GAC CAG GTC AAA CAC GAC TGT TAG TAG GTC TGC TGG ACG
 I   T   Q   G   Q   L   V   Q   F   V   L   T   I   I   Q   T   T   C>
___a___a___a___a____TRANSLATION OF MELO7 MACV (A)__a___a___a___a___a___>

     870         880         890         900         910
GGG GTC TTC TGG CCA TGC TCC TTC CCT CTC GGG TGG CTG TTC TTC CAG ATT GGA
CCC CAG AAG ACC GGT ACG AGG AAG GGA GAG CCC ACC GAC AAG AAG GTC TAA CCT
 G   V   F   W   P   C   S   F   P   L   G   W   L   F   F   Q   I   G>
___a___a___a___a____TRANSLATION OF MELO7 MACV (A)__a___a___a___a___a___>

920         930         940         950         960         970
TAC ATG ATT TCC CTG ATT GCT CTC TTC ACA AAC TTC TAC ATT CAG ACT TAC AAC
ATG TAC TAA AGG GAC TAA CGA GAG AAG TGT TTG AAG ATG TAA GTC TGA ATG TTG
 Y   M   I   S   L   I   A   L   F   T   N   F   Y   I   Q   T   Y   N>
___a___a___a___a____TRANSLATION OF MELO7 MACV (A)__a___a___a___a___a___>

     980         990         1000        1010        1020
AAG AAA GGG GCC TCT CGG AGG AAA GAC CAC CTG AAG GGC CAC CAG AAC GGG TCT
TTC TTT CCC CGG AGA GCC TCC TTT CTG GTG GAC TTC CCG GTG GTC TTG CCC AGA
 K   K   G   A   S   R   R   K   D   H   L   K   G   H   Q   N   G   S>
___a___a___a___a____TRANSLATION OF MELO7 MACV (A)__a___a___a___a___a___>

1030        1040        1050        1060        1070        1080
GTG GCC GCC GTC AAC GGA CAC ACC AAC AGC TTC CCT TCC CTG GAA AAC AGC GTG
CAC CGG CGG CAG TTG CCT GTG TGG TTG TCG AAG GGA AGG GAC CTT TTG TCG CAC
 V   A   A   V   N   G   H   T   N   S   F   P   S   L   E   N   S   V>
___a___a___a___a____TRANSLATION OF MELO7 MACV (A)__a___a___a___a___a___>
```

→ rest of ~2.5kb piece.

```
     1090        1100        1110 HindIII 1120        1130
AAG CCC AGG AAG CAG CGA AAG GAT TGA CAA GCC GAG CCG AAG CCT CCA GAC CGC
TTC GGG TCC TTC GTC GCT TTC CTA ACT GTT CGG CTC GGC TTC GGA GGT CTG GCG
 K   P   R   K   Q   R   K   D   *   Q   A   E   P   K   P   P   D   R>
___a___a___a___a____TRANSLATION OF MELO7 MACV (A)__a___a___a___a___a___>

    1140        1150        1160        1170        1180
GGC GTG TGA TTG TAA GCA CAG CGT GAC TTG TGC CCT GAC GCT CAT AGC AGC TGC
CCG CAC ACT AAC ATT CGT GTC GCA CTG AAC ACG GGA CTG CGA GTA TCG TCG ACG
 G   V   *   L   *   A   Q   R   D   L   C   P   D   A   H   S   S   C>
___a___a___a___a____TRANSLATION OF MELO7 MACV (A)__a___a___a___a___a___>

1190        1200        1210        1220        1230        1240
TGT CAC TAG TCT GGC CCT ACT ATC TGC AGT GTG ACT CAT GTA GGA CCT TCT TCA
ACA GTG ATC AGA CCG GGA TGA TAG ACG TCA CAC TGA GTA CAT CCT GGA AGA AGT
 C   H   *   S   G   P   T   I   C   S   V   T   H   V   G   P   S   S>
___a___a___a___a____TRANSLATION OF MELO7 MACV (A)__a___a___a___a___a___>

     1250        1260        1270        1280        1290
TCA GTT CAA AAC CCC TAG AAT ATG TAT ACA GAT TAT ACA AAG TAG GCA TAC GAT
AGT CAA GTT TTG GGG ATC TTA TAC ATA TGT CTA ATA TGT TTC ATC CGT ATG CTA
 S   V   Q   N   P   *   N   M   Y   T   D   Y   T   K   *   A   Y   D>
___a___a___a___a____TRANSLATION OF MELO7 MACV (A)__a___a___a___a___a___>

1300
TTT CTC ACA TTT C
AAA GAG TGT AAA G
 F   L   T   F   X>
___TRANSLATIO__a_>
```

mm1 mouse G57 seq *(arrow at 200; NcoI at 210)*

HEd

Amplified A15 w/ RO833 & 832. - filled-in/cut w/ NcoI & cloned into NcoI/EcoRV cut pYX242. Approximately 2.5 Kb piece was isolated & cloned into pYX242 vector.

May be able to improve expression if clone in just the gene - easier to maintain plasmid in cells since smaller.

Could create HindIII site just 3' of stop.

Single primer read from ~850 bp, since RO405 is at 3' end of ~2.5kb piece. No overlap possible.

Project No.	Signature *Amanda E. Leonard*	Date
Witnessed By *Paul Johns*		Date

ABBOTT LABORATORIES

PROJECT TITLE Transgenic Lipids 2

Amanda E. Leonard
08:10 AM

To: Emil G. Bobik/COLUMBUS/ROSS PRODUCTS DIVISION/US,
cc: Vic Huang/COLUMBUS/ROSS PRODUCTS DIVISION/US,
Subject: Sample descriptions

Hi Emil,
Here's the list:

1)	334(pRAE-80)	LA	6.75ml
2)	334(pYX242)	LA	
3)	334(pRAE-80)	DGLA	9.2ml
4)	334(pYX242)	DGLA	
5)	334(pRAE-80)	ADA	8.3ml
6)	334(pYX242)	ADA	
7)	334(pRAE-80)	ALA	3.5ml
8)	334(pYX242)	ALA	
9)	334(pRAE-80)	EPA	30.2ml
10)	334(pYX242)	EPA	
11)	334(pRAE-80/pRAE-73)	ALA	
12)	334(pYX242/pYES2)	ALA	
13)	334(pRAE-80/pRAE-73)	LA	
14)	334(pYX242/pYES2)	LA	
15)	334(pRAE-80/pRAE-73)	STA	6.9ml
16)	334(pYX242/pYES2)	STA	

We're also interested in detecting delta4-desaturated 16:1 in all of the samples.

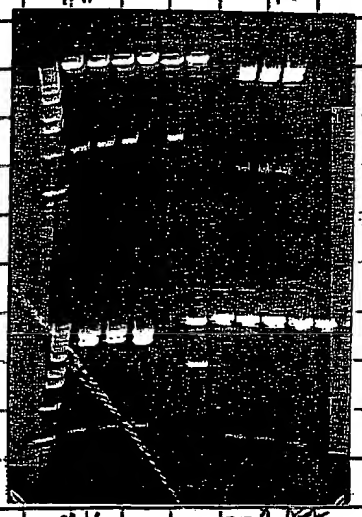
Thanks!
Amanda

Pellet yeast cultures & submit for full profile analysis

mini-prep first 6 of cultures for pRAE-84, 86 & 87

Digest w/ enzymes to confirm insert

Top pRAE-84 clone DRII/NcoI - cut insert into HindIII/NcoI cut vector



~~Cut pRAE-84~~

Cut pRAE-84 (mm4) w/ XhoI - expecting ~9.4kbp

Cut pRAE-86 (mm7) w/ EcoRI/PstI - expecting ~1.2kbp

Cut pRAE-87 (mm7) w/ EcoRI - expecting ~6.3kbp

Run primers to sequence these clones.

Transform into SC334
pRAE-84-4, pRAE-86-1 & pRAE-87-4
Also streak 334(pYX242)

Need to check GLA, AA, ADA, ALA, STA, EPA on DRII instead of DRI

Project No.	Signature	Date
	Amanda E. Leonard	
Witnessed By	Paul Johns	Date

ROSS PRODUCTS DIVISION
ABBOTT LABORATORIES

PROJECT TITLE Transgenic Lipids

Amanda E. Leonard
08:10 AM

To: Emil G. Bobik/COLUMBUS/ROSS PRODUCTS DIVISION/US,
cc: Vic Huang/COLUMBUS/ROSS PRODUCTS DIVISION/US,
Subject: Sample descriptions

Hi Emil,
Here's the list:

1)	334(pRAE-80)	LA	8.75ul
2)	334(pYX242)	LA	
3)	334(pRAE-80)	DGLA	9.2ul
4)	334(pYX242)	DGLA	
5)	334(pRAE-80)	ADA	8.3ul
6)	334(pYX242)	ADA	
7)	334(pRAE-80)	ALA	3.5ul
8)	334(pYX242)	ALA	
9)	334(pRAE-80)	EPA	30.2ul
10)	334(pYX242)	EPA	
11)	334(pRAE-80/pRAE-73)	ALA	
12)	334(pYX242/pYES2)	ALA	
13)	334(pRAE-80/pRAE-73)	LA	
14)	334(pYX242/pYES2)	LA	
15)	334(pRAE-80/pRAE-73)	STA	6.9ul
16)	334(pYX242/pYES2)	STA	

We're also interested in detecting delta4-desaturated 16:1 in all of the samples.

Thanks!
Amanda

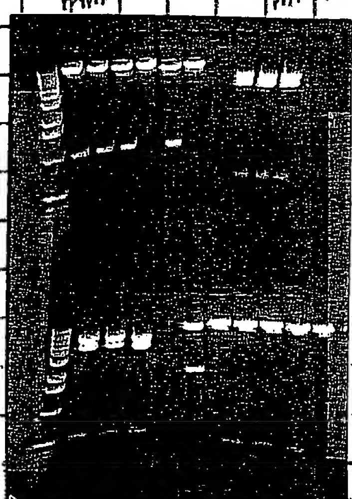
Pellet yeast cultures & submit for full profile analysis

mini-prep just 6 of cultures for pRAE-84, 86 & 87

Digest w/ enzymes to confirm insert
Esp. pRAE-84 - since cloned ~~HindIII~~ DRAI / Nco cut insert into HindIII / Nco cut vector

~~Cut pRAE-84~~

mm4 mm4



mm4 mm7

Cut pRAE-84 (mm4) w/ XhoI - expecting ~948bp
Cut pRAE-86 (mm1) w/ EcoRV/PstI - expecting ~1.2kbp
Cut pRAE-87 (mm7) w/ EcoRI - expecting ~550bp

order primers to sequence these clones.

Transform into SC334
pRAE-84-4, pRAE-86-1 & pRAE-87-4
Also streak 334 (pYX242)

Need to check GLA, AA, ADA, ALA, STA, EPA or DPA instead of AA

Project No.	Signature Amanda E. Leonard	Date
Witnessed By Paul Johns		Date

3815 - 14

ROSS PRODUCTS DIVISION
ABBOTT LABORATORIES

PROJECT TITLE Lipid Analysis

Project No.

Witnessed By Paul Johns

Signature Amanda E Leonard

Date

Date

Fatty Acid Profile

Amanda	334(pYX242)	334(pRAE-84-4)	334(pRAE-88-1)	334(pRAE-87-4)
Leonard	GLA	GLA	GLA	GLA
	1	2	3	4
	LRL-6104	LRL-6105	LRL-6106	LRL-6107
mar09e00	004f0101	005f0201	006f0301	007f0401
	grams/100 grams fatty acid			
C10:0	9.25	15.07	9.81	23.13
C12:0	5.24	7.34	6.15	10.88
C13:0				
C14:0	2.99	2.85	3.02	1.99
C14:1	1.14	1.21	1.15	0.84
C15:0	0.46	0.49	0.51	0.33
C16:0	22.02	19.53	20.66	13.41
C16:1w7	31.15	28.77	28.90	14.51
C16:1w5	0.34	0.30	0.31	0.26
C16:2				
C17:0	0.13	0.17	0.16	0.20
C16:3				
C16:4				
C18:0	2.98	3.29	3.74	3.13
C18:1w9	15.94	14.16	16.10	12.05
C18:1w7	1.25	1.21	1.41	8.00
C18:1w5	0.10		0.13	0.20
C18:2w6	0.12	0.17	0.09	
C18:3w6	4.53	4.21	4.60	1.11
C18:3w3				
C18:4w3				
C20:0	0.19	0.25	0.23	0.25
C20:1w11				0.87
C20:1w9	0.09		0.21	0.35
C20:1w7			0.13	0.98
C20:2w6				
C20:3w6	0.10	0.37	0.20	4.10
C20:4w6				
C20:3w3				
C20:4w3				
C20:5w3				
C22:0	0.68	0.86	0.83	0.85
C22:1w11				
C22:1w9	0.46	0.77	0.60	0.94
C22:1w7				
C22:4w6				
C22:5w6				
C22:4w3				
C22:5w3				
C24:0	0.85	0.97	1.04	1.80
C22:6w3				
C24:1w9				
C24:4w677				
C24:5w377				
total	100	100	100	100

3768-033.xls
Page 7 of 12

Lipid Research Lab

Emil Bobik

Fatty Acid Profile

Amanda	334(pYX242)	334(pRAE-84-4)	334(pRAE-88-1)	334(pRAE-87-4)
Leonard	GLA	GLA	GLA	GLA
	1	2	3	4
	LRL-6104	LRL-6105	LRL-6106	LRL-6107
mar09e00	004f0101	005f0201	006f0301	007f0401
			ug/sample	
C10:0	19.24	16.95	16.44	23.61
C12:0	10.90	9.23	10.31	10.90
C13:0				
C14:0	6.21	3.59	5.06	2.03
C14:1	2.36	1.52	1.93	0.86
C15:0	0.95	0.62	0.86	0.33
C16:0	45.78	24.56	34.61	13.68
C16:1w7	64.76	33.65	48.42	14.81
C16:1w5	0.70	0.38	0.52	0.27
C16:2				
C17:0	0.27	0.21	0.27	0.20
C16:3				
C16:4				
C18:0	6.20	4.14	6.27	3.19
C18:1w9	33.15	17.80	26.96	12.29
C18:1w7	2.60	1.53	2.35	8.16
C18:1w5	0.22		0.22	0.21
C18:2w6	0.24	0.21	0.15	
C18:3w6	9.43	5.30	7.71	1.13
C18:3w3				
C18:4w3				
C20:0	0.39	0.32	0.38	0.26
C20:1w11				0.89
C20:1w9	0.19		0.36	0.36
C20:1w7			0.23	1.00
C20:2w6				
C20:3w6	0.21	0.46	0.34	4.16
C20:4w6				
C20:3w3				
C20:4w3				
C20:5w3				
C22:0	1.41	1.08	1.39	0.87
C22:1w11				
C22:1w9	0.96	0.97	1.01	0.96
C22:1w7				
C22:4w6				
C22:5w6				
C22:4w3				
C22:5w3				
C24:0	1.76	1.22	1.75	1.84
C22:6w3				
C24:1w9				
C24:4w677				
C24:5w377				
total	208	126	188	102

ls
12

Lipid Research Lab

Project No.

Witnessed By Paul Johns

Signature Amanda E. Leonard

Date Data

Fatty Acid Profile

Amanda	334(pYX242)	334(pRAE-84-4)	334(pRAE-88-1)	334(pRAE-87-4)
Leonard	STA	STA	STA	STA
	6	6	7	6
	LRL-6108	LRL-6109	LRL-6110	LRL-6111
mar05e00	008F0801	009F0801	010F0701	011F0801
	grams/100 grams fatty acid			
C10:0	15.55	3.44	13.92	12.75
C12:0	6.91	3.49	7.29	7.78
C13:0				
C14:0	2.80	2.93	2.86	2.44
C14:1	1.13	1.08	1.11	0.80
C15:0	0.50	0.53	0.54	0.34
C16:0	20.14	22.17	18.83	17.70
C16:1w7	27.15	38.32	25.69	21.98
C16:1w5	0.31	0.32	0.26	0.30
C16:2				
C17:0	0.18	0.10	0.23	0.14
C16:3		0.03		
C16:4				
C18:0	2.98	2.66	4.33	2.76
C18:1w7	14.81	17.92	15.85	15.52
C18:1w9	1.19	1.38	1.44	6.94
C18:1w5		0.16		0.22
C18:2w6				
C18:3w6				
C18:3w3				
C18:4w3	2.78	2.70	3.25	0.80
C20:0	0.27	0.11	0.29	0.10
C20:1w11				0.07
C20:1w9	0.21	0.15	0.42	0.38
C20:1w7		0.03	0.18	0.62
C20:2w6				
C20:3w6		0.05		
C20:4w6				
C20:3w3				
C20:4w3		0.44	0.28	3.40
C20:5w3				
C22:0	0.97	0.50	0.99	0.66
C22:1w11				
C22:1w9	0.83	0.28	0.95	0.56
C22:1w7				
C22:4w6				
C22:5w6				
C22:4w3		0.33		0.60
C22:5w3				
C24:0	1.29	0.66	1.29	1.15
C22:6w3				
C24:1w9				
C24:4w6??				
C24:5w3??				
total	100	100	100	100

3768-033.xls
Page 8 of 12

Lipid Research Lab

Fatty Acid Profile

Amanda	334(pYX242)	334(pRAE-84-4)	334(pRAE-88-1)	334(pRAE-87-4)
Leonard	STA	STA	STA	STA
	6	6	7	6
	LRL-6108	LRL-6109	LRL-6110	LRL-6111
mar05e00	008F0801	009F0801	010F0701	011F0801
	ug/sample			
C10:0	19.30	14.90	15.62	25.49
C12:0	8.57	15.11	8.19	15.57
C13:0				
C14:0	3.48	12.67	3.21	4.89
C14:1	1.40	4.66	1.25	1.60
C15:0	0.62	2.28	0.60	0.69
C16:0	25.00	95.91	21.14	35.39
C16:1w7	33.71	165.79	28.84	43.96
C16:1w5	0.39	1.39	0.30	0.59
C16:2				
C17:0	0.23	0.42	0.26	0.26
C16:3		0.15		
C16:4				
C18:0	3.70	12.36	4.86	5.53
C18:1w7	18.38	77.53	17.80	31.04
C18:1w9	1.47	5.97	1.61	17.86
C18:1w5		0.71		0.45
C18:2w6				
C18:3w6				
C18:3w3				
C18:4w3	3.45	11.70	3.65	1.61
C20:0	0.33	0.50	0.33	0.20
C20:1w11				0.13
C20:1w9	0.26	0.64	0.46	0.73
C20:1w7		0.15	0.20	1.24
C20:2w6				
C20:3w6		0.21		
C20:4w6				
C20:3w3				
C20:4w3		1.91	0.32	6.80
C20:5w3				
C22:0	1.20	2.17	1.11	1.32
C22:1w11				
C22:1w9	1.03	1.21	1.07	1.12
C22:1w7				
C22:4w6				
C22:5w6				
C22:4w3		1.45		1.19
C22:5w3				
C24:0	1.60	2.67	1.45	2.30
C22:6w3				
C24:1w9				
C24:4w6??				
C24:5w3??				
total	124	433	112	200

Emil Bobik ——2

Lipid Research Lab

3815 - 16

ROSS PRODUCTS DIVISION
ABBOTT LABORATORIES

PROJECT TITLE Lipid analysis of

Project No.

Witnessed By Paul Hahn

Signature Linda F. Leonard

Date

Date

Fatty Acid Profile

Amanda	334(pYX242)	334(pRAE-84-4)	334(pRAE-86-1)	334(pRAE-87-4)
Leonard	AA	AA	AA	AA
	9	10	11	12
	LRL-5112	LRL-5113	LRL-5114	LRL-5115
mar09e00	012F0901	013F1001	014F1101	015F1201
	grams/100 grams fatty acid			
C10:0	14.18	5.01	6.42	12.18
C12:0	7.01	5.02	5.54	7.95
C13:0				
C14:0	2.75	3.04	2.88	1.84
C14:1	0.98	1.12	0.99	0.75
C15:0	0.38	0.48	0.50	0.26
C16:0	19.25	21.57	19.36	14.22
C16:1w7	23.75	33.23	26.90	15.08
C16:1w5	0.27	0.34	0.28	0.22
C16:2				
C17:0	0.16	0.12	0.14	0.13
C16:3				
C16:4				
C18:0	2.82	2.78	3.34	2.44
C18:1w7	12.30	15.67	14.53	12.61
C18:1w9	1.10	1.50	1.46	9.80
C18:1w5		0.19	0.17	0.22
C18:2w6				
C18:3w6				
C18:3w3				
C18:4w3				0.09
C20:0	0.29	0.16	0.21	0.14
C20:1w11				0.76
C20:1w9	0.18	0.11	0.19	0.31
C20:1w7			0.13	0.91
C20:2w6				
C20:3w6				
C20:4w6	11.44	5.55	13.63	11.28
C20:3w3				
C20:4w3				
C20:5w3				
C22:0	1.02	0.61	0.84	0.68
C22:1w11				
C22:1w9	0.89	0.61	0.67	0.70
C22:1w7				
C22:4w6		0.64	0.71	6.33
C22:5w6				
C22:4w3				
C22:5w3				
C24:0	1.23	0.97	1.03	1.31
C22:6w3				
C24:1w9				
C24:4w677		1.07	0.10	
C24:5w377				
total	100	100	100	100

3768-033.xls
Page 9 of 12

Lipid Research Lab

Emil Bobik

Fatty Acid Profile

Amanda	334(pYX242)	334(pRAE-84-4)	334(pRAE-86-1)	334(pRAE-87-4)
Leonard	AA	AA	AA	AA
	9	10	11	12
	LRL-5112	LRL-5113	LRL-5114	LRL-5115
mar09e00	012F0901	013F1001	014F1101	015F1201
	ug/sample			
C10:0	16.27	9.45	11.96	21.60
C12:0	8.04	9.47	10.33	14.10
C13:0				
C14:0	3.15	5.74	5.36	3.27
C14:1	1.12	2.12	1.85	1.32
C15:0	0.44	0.90	0.93	0.46
C16:0	22.08	40.67	36.07	25.22
C16:1w7	27.24	62.67	50.12	26.73
C16:1w5	0.31	0.65	0.51	0.39
C16:2				
C17:0	0.19	0.23	0.26	0.22
C16:3				
C16:4				
C18:0	3.23	5.24	6.22	4.33
C18:1w7	14.11	29.55	27.08	22.36
C18:1w9	1.26	2.82	2.72	17.02
C18:1w5		0.36	0.31	0.40
C18:2w6				
C18:3w6				
C18:3w3				
C18:4w3				0.16
C20:0	0.34	0.34	0.39	0.25
C20:1w11				1.35
C20:1w9	0.21	0.21	0.36	0.55
C20:1w7			0.25	1.61
C20:2w6				
C20:3w6				
C20:4w6	13.13	10.47	25.39	20.00
C20:3w3				
C20:4w3				
C20:5w3				
C22:0	1.17	1.53	1.56	1.20
C22:1w11				
C22:1w9	1.03	1.16	1.25	1.24
C22:1w7				
C22:4w6		1.20	1.32	11.21
C22:5w6				
C22:4w3				
C22:5w3				
C24:0	1.41	1.82	1.91	2.32
C22:6w3				
C24:1w9				
C24:4w677		2.01	0.20	
C24:5w377				
total	115	189	186	177

ds
12

Lipid Research Lab

ROSS PRODUCTS DIVISION
ABBOTT LABORATORIES

PROJECT TITLE Lamagenic Oil

3815 - 17

Project No.

Witnessed By Paul Jones

Signature Amanda E. Leonard

Date

Date

Fatty Acid Profile

Amanda	334(pYX242)	334(pRAE-84-4)	334(pRAE-86-1)	334(pRAE-87-4)
Leonard	EPA	EPA	EPA	EPA
	13	14	16	16
	LRL-6116	LRL-6117	LRL-6118	LRL-6119
mar09e00	016P1301	017F1401	018F1601	019F1601
	grams/100 grams fatty acid			
C10:0	5.52	2.58	6.36	1.12
C12:0	4.78	3.42	4.86	3.47
C13:0				
C14:0	2.63	2.64	2.76	2.73
C14:1	0.93	1.02	0.99	1.15
C15:0	0.48	0.44	0.52	0.55
C16:0	21.92	20.74	20.42	17.21
C16:1w7	30.65	33.62	27.76	26.68
C16:1w5	0.33	0.34	0.30	0.44
C16:2				
C17:0	0.14	0.11	0.18	0.16
C16:3				
C16:4				
C18:0	2.88	2.59	3.61	2.77
C18:1w7	15.91	16.33	15.98	16.66
C18:1w9	1.33	1.49	1.49	11.60
C18:1w5	0.13	0.14	0.15	0.29
C18:2w6	0.07	0.06		
C18:3w6				
C18:3w3				
C18:4w3				
C20:0	0.19	0.16	0.25	0.22
C20:1w11				0.10
C20:1w9	0.12	0.14	0.23	0.35
C20:1w7		0.05	0.15	0.94
C20:2w6				
C20:3w6				
C20:4w6				
C20:3w3		0.24		0.22
C20:4w3				
C20:5w3	9.66	3.02	9.92	4.58
C22:0	0.84	0.95	0.96	0.74
C22:1w11				
C22:1w9	0.59	0.52	0.84	0.67
C22:1w7				
C22:4w6				
C22:5w6				
C22:4w3				
C22:5w3		1.47	0.93	6.18
C24:0	0.89	0.86	1.05	0.89
C22:6w3				
C24:1w9				
C24:4w677				
C24:5w377		7.06	0.27	0.27
total	100	100	100	100

3768-033.xls
Page 10 of 12

Lipid Research Lab

Emil Bobik

Fatty Acid Profile

Amanda	334(pYX242)	334(pRAE-84-4)	334(pRAE-86-1)	334(pRAE-87-4)
Leonard	EPA	EPA	EPA	EPA
	13	14	16	16
	LRL-6116	LRL-6117	LRL-6118	LRL-6119
mar09e00	016P1301	017F1401	018F1601	019F1601
			ug/sample	
C10:0	12.23	7.01	10.00	2.23
C12:0	10.58	9.28	7.64	6.90
C13:0				
C14:0	5.83	7.17	4.34	5.42
C14:1	2.05	2.76	1.55	2.29
C15:0	1.07	1.20	0.82	1.09
C16:0	48.54	56.24	32.10	34.16
C16:1w7	67.87	91.14	43.63	52.96
C16:1w5	0.74	0.91	0.47	0.88
C16:2				
C17:0	0.31	0.29	0.28	0.32
C16:3				
C16:4				
C18:0	6.38	7.02	5.68	5.49
C18:1w7	35.23	44.29	25.12	33.06
C18:1w9	2.94	4.03	2.34	23.02
C18:1w5	0.28	0.39	0.23	0.58
C18:2w6	0.15	0.15		
C18:3w6				
C18:3w3				
C18:4w3				
C20:0	0.41	0.44	0.40	0.43
C20:1w11				0.20
C20:1w9	0.27	0.37	0.36	0.70
C20:1w7		0.15	0.24	1.86
C20:2w6				
C20:3w6				
C20:4w6				
C20:3w3		0.66		0.44
C20:4w3				
C20:5w3	21.43	8.16	15.58	9.10
C22:0	1.86	2.56	1.51	1.46
C22:1w11				
C22:1w9	1.31	1.42	1.33	1.34
C22:1w7				
C22:4w6				
C22:5w6				
C22:4w3				
C22:5w3		3.98	1.47	12.26
C24:0	1.97	2.33	1.65	1.78
C22:6w3				
C24:1w9				
C24:4w677				
C24:5w377		19.13	0.43	0.54
total	221	271	157	199

ls
2

Lipid Research Lab

3815 - 18

ROSS PRODUCTS DIVISION
AB TT LABORATORIES

PROJECT TITLE Lipid Analysis Oil

Project No.

Witnessed By

Signature

Date

Date

Fatty Acid Profile

Amanda	334(pYX242)	334(pRAE-84-4)	334(pRAE-88-1)	334(pRAE-87-4)
Leonard	ADA	ADA	ADA	ADA
	17	18	19	20
	LRL-8120	LRL-8121	LRL-8122	LRL-8123
mar09e00	020F1701	021F1801	022F1901	023F2001
	grams/100 grams fatty acid			
C10:0	10.53	16.05	10.46	10.39
C12:0	6.25	7.87	6.33	6.63
C13:0				
C14:0	2.51	1.58	2.17	2.35
C14:1	1.23	0.73	0.72	1.32
C15:0	0.33	0.15	0.23	0.28
C16:0	15.62	12.91	16.18	11.97
C16:1w7	23.94	15.26	20.59	17.95
C16:1w5	0.30	0.14	0.19	0.43
C16:2				
C17:0	0.13	0.12	0.09	0.15
C16:3				
C16:4				
C18:0	2.31	2.41	2.88	2.18
C18:1w7	11.77	11.41	13.95	10.91
C18:1w9	1.13	1.18	1.42	8.67
C18:1w5			0.13	0.29
C18:2w6				
C18:3w6				
C18:3w3				
C18:4w3				0.14
C20:0	0.26	0.15	0.76	0.25
C20:1w11		0.63		0.12
C20:1w9	0.12	0.14	0.19	0.34
C20:1w7		0.32	0.24	0.63
C20:2w6				
C20:3w6				
C20:4w6				
C20:3w3				
C20:4w3				
C20:5w3				
C22:0	1.04	0.77	0.69	0.86
C22:1w11				
C22:1w9	0.85	0.94	0.62	1.13
C22:1w7				
C22:4w6	20.41	23.61	20.83	21.15
C22:5w6				
C22:4w3				
C22:5w3				
C24:0	1.25	1.22	1.01	1.66
C22:6w3				
C24:1w9				
C24:4w677		2.40	0.32	
C24:5w377				
total	100	100	100	100

3768-033.xls
Page 11 of 12

Lipid Research Lab

Emil Bobik

Fatty Acid Profile

Amanda	334(pYX242)	334(pRAE-84-4)	334(pRAE-88-1)	334(pRAE-87-4)
Leonard	ADA	ADA	ADA	ADA
	17	18	19	20
	LRL-8120	LRL-8121	LRL-8122	LRL-8123
mar09e00	020F1701	021F1801	022F1901	023F2001
			ug/sample	
C10:0	16.60	23.96	25.75	12.18
C12:0	9.84	11.75	15.59	7.77
C13:0				
C14:0	3.96	2.36	5.34	2.75
C14:1	1.94	1.09	1.78	1.55
C15:0	0.53	0.23	0.56	0.33
C16:0	24.62	19.27	39.84	14.03
C16:1w7	37.74	22.78	50.70	21.03
C16:1w5	0.48	0.21	0.47	0.51
C16:2				
C17:0	0.21	0.19	0.23	0.17
C16:3				
C16:4				
C18:0	3.65	3.60	7.09	2.55
C18:1w7	18.55	17.04	34.35	12.78
C18:1w9	1.78	1.77	3.51	10.39
C18:1w5			0.33	0.34
C18:2w6				
C18:3w6				
C18:3w3				
C18:4w3				0.16
C20:0	0.42	0.22	1.86	0.29
C20:1w11		0.94		0.14
C20:1w9	0.19	0.21	0.46	0.40
C20:1w7		0.47	0.60	0.74
C20:2w6				
C20:3w6				
C20:4w6				
C20:3w3				
C20:4w3				
C20:5w3				
C22:0	1.64	1.16	1.69	1.04
C22:1w11				
C22:1w9	1.34	1.41	1.52	1.32
C22:1w7				
C22:4w6	32.17	35.25	51.29	24.78
C22:5w6				
C22:4w3				
C22:5w3				
C24:0	1.98	1.82	2.50	1.94
C22:6w3				
C24:1w9				
C24:4w677		3.56	0.78	
C24:5w377				
total	158	149	246	117

<ls
12

Lipid Research Lab

ROSS PRODUCTS DIVISION
ABBOTT LABORATORIES

PROJECT TITLE Long-chain fatty acid

3815 - 19

Project No.

Witnessed By Paul Jones

Signature Amanda C. Leonard

Date

Date

Fatty Acid Profile

Amanda	334(pYX242)	334(pRAE-84-4)	334(pRAE-86-1)	334(pRAE-87-4)
Leonard	DPA	DPA	DPA	DPA
	21	22	23	24
	LRL-6124	LRL-6126	LRL-6128	LRL-6127
mar09e00	024F2101	026F2201	026F2301	027F2401
	grams/100 grams fatty acid			
C10:0	11.09	11.27	9.85	21.79
C12:0	6.55	6.15	5.86	9.23
C13:0				
C14:0	2.63	2.65	2.73	1.34
C14:1	1.21	1.29	1.18	0.83
C15:0	0.39	0.36	0.42	
C16:0	18.73	17.17	17.31	9.49
C16:1w7	27.91	28.99	27.40	8.62
C16:1w5	0.32	0.33	0.31	0.16
C16:2				
C17:0	0.13	0.14	0.15	0.26
C16:3				
C16:4				
C18:0	2.90	2.94	3.60	6.19
C18:1w7	15.04	14.63	15.14	8.07
C18:1w9	1.37	1.38	1.55	6.90
C18:1w5			0.16	0.22
C18:2w6				
C18:3w6				
C18:3w3				
C18:4w3				
C20:0	0.23	0.23	0.27	0.31
C20:1w11				1.26
C20:1w9	0.13	0.15	0.29	0.41
C20:1w7			0.19	1.34
C20:2w6				
C20:3w6				
C20:4w6				
C20:3w3				
C20:4w3				
C20:5w3				
C22:0	0.96	0.96	1.01	1.01
C22:1w11				
C22:1w9	0.83	0.90	0.87	1.18
C22:1w7				
C22:4w6				
C22:5w6	0.57	0.57	0.68	1.39
C22:4w3				
C22:5w3	7.87	4.86	9.07	17.24
C24:0	1.13	1.19	1.26	2.51
C22:6w3				
C24:1w9				
C24:4w677		12.9%	9.2%	1.4%
C24:5w377		3.82	0.70	0.25
total	100	100	100	100

3768-033.xls
Page 12 of 12

Lipid Research Lab

Emil Bobik

Fatty Acid Profile

Amanda	334(pYX242)	334(pRAE-84-4)	334(pRAE-86-1)	334(pRAE-87-4)
Leonard	DPA	DPA	DPA	DPA
	21	22	23	24
	LRL-6124	LRL-6126	LRL-6128	LRL-6127
mar09e00	024F2101	026F2201	026F2301	027F2401
			ug/sample	
C10:0	14.07	14.16	13.41	19.80
C12:0	8.32	7.73	7.98	8.39
C13:0				
C14:0	3.33	3.33	3.71	1.22
C14:1	1.54	1.63	1.61	0.76
C15:0	0.49	0.46	0.58	
C16:0	23.77	21.57	23.57	8.63
C16:1w7	35.42	36.41	37.29	7.83
C16:1w5	0.40	0.42	0.42	0.14
C16:2				
C17:0	0.17	0.17	0.21	0.23
C16:3				
C16:4				
C18:0	3.69	3.69	4.90	5.62
C18:1w7	19.09	18.37	20.61	7.33
C18:1w9	1.74	1.73	2.10	6.27
C18:1w5			0.22	0.20
C18:2w6				
C18:3w6				
C18:3w3				
C18:4w3				
C20:0	0.30	0.29	0.37	0.28
C20:1w11				1.15
C20:1w9	0.17	0.19	0.39	0.37
C20:1w7			0.25	1.22
C20:2w6				
C20:3w6				
C20:4w6				
C20:3w3				
C20:4w3				
C20:5w3				
C22:0	1.22	1.20	1.37	0.92
C22:1w11				
C22:1w9	1.06	1.13	1.19	1.07
C22:1w7				
C22:4w6				
C22:5w6	0.72	0.71	0.93	1.26
C22:4w3				
C22:5w3	9.99	6.13	12.35	15.66
C24:0	1.44	1.49	1.72	2.28
C22:6w3				
C24:1w9				
C24:4w677				
C24:5w377		4.80	0.95	0.23
total	127	126	136	91

tls
12

Lipid Research Lab